

Please replace the Abstract beginning at page 16, line 2, with the following rewritten paragraph:

### **ABSTRACT**

--A method for rapidly analyzing data gathered during scatterometry and related methods uses a combination of database lookup, database interpolation and theoretical model evaluation. Database lookup is used to provide an initial mapping between a measured optical response and a set of associated measurement parameters. Interpolation is then used to refine the optical response and parameters ~~beyond the accuracy provided by the database~~. A theoretical model is then repeatedly evaluated to refine the optical response and parameters ~~beyond the accuracy provided by interpolation previously refined by the interpolation~~. In this way, the present invention avoids the inaccuracies associated with traditional interpolation-based analysis and without incurring the computational complexity associated with real-time database supplementation.--